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09/624,085	07/24/2000	David Lee	4-32-9	5286

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Docket Administrator
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EXAMINER	
MOORE, IAN N	
ART UNIT	**PAPER NUMBER**
2661	5

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)	
	09/624,085	LEE ET AL.	
	Examiner	**Art Unit**	
	Ian N Moore	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: node 501 through 510 (see page 16, line 7-9) and Fig. 5b.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 2,3,7,8,9,10, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 and 8 recite "the **maximum** of" (Claim 2- line 4 and Claim 8- line 6). It is unclear what "the maximum of" means. In particular, it is unclear whether the "maximum" is determined for the occurrence that λ_p is updated as equal/greater/lesser than the prior value λ^d of R_l, or $1+f_l$. The speciation does not clearly explain/state the above-described limitation.

Claim 3 recites, "any **ultimate** destination" (Claim 3- line 3) and "**the maximum number D of nodes**". It is unclear what "any ultimate destination" and "the maximum

number D of nodes" mean. In particular, it is unclear whether **ultimate** destination is a destination node, or intermediate nodes. The speciation and abstract disclose various definition/description of what "D" means; however, neither one of them clearly/consistently state above-described limitation.

Claim 10 recites, "D is the maximum number of hops". Again, it is unclear what "D" actually is since it is being used interchangeably as node(s) and hop(s) in the specification.

Claim 7 and 11 recite, " equal to i" (Claim 7- line 3 and Claim 11- line 12). It is unclear what "**i**" means. In particular, it is unclear whether "i" is a number of available slots, maximum number of slots, or the number of slot dedicated as threshold. The speciation does not clearly explain/state the above-described limitation.

Claim 9 recites the step of

sending from the receiving node R_l to the sending node X_l a feedback level fl such that there will be room in the buffer in the receiving node Rl to store packets subsequently received from the upstream node X_l;

assigning a priority level X_l to packets stored in the buffer of the receiving node R_l such that [(a)] all packets destined for the same destination have the same priority level, and (b) packets closer to their destination have a higher priority level]; and

transmitting from the sending node X_l to the receiving node R_l, only those stored packets whose priority level λ_p is at least equal to the feedback level received from the receiving node R_l.

As noted above in bold, it is unclear the step of sending/transmitting feed back value from receiving node R_l to upstream (node X_l) is performed first before assigning the priority

to the incoming packet at node **X_l**, or vice-versa (i.e. compare to those steps in Claim 1). Although the specification described each node action steps individually, the speciation does not clearly explain/state steps regards to interaction between the nodes as the described above.

Claim 11; please see Claim 9 above since the steps are the same.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 1, 4, 5, 6, 7, and 12 are rejected under 35 U.S.C. 103(a) as being obvious over Bustini (U.S. Patent 5,313,454) in view of Fichou (U.S. Patent 5,790,522).

Regarding claim 1, Bustini '454 discloses a network of nodes (Node A, B, and C; Fig. 7) connected to each other via bidirectional links (Cell Virtual Connection 182; Fig. 7), each of said nodes having a buffer for storing packets prior to transmission toward an ultimate destination (TXR 56 and FRP 59; Fig.7), a method to control congestion on each of said links, said method comprising the steps of:

assigning a priority level from amongst at least two possible priority levels, to packets stored in a sending node X_l buffer (each node 22 incorporates a T1 transmitter/receiver that includes the fair queuing and servicing circuitry. The T1 transmitter/receivers support six

classes of cell traffic: high priority (HP), voice, low speed statistical (LSS), high speed deterministic (HSD), bursty, and multicast; see col. 6, line 26-30);

transmitting upstream, via said link 1 (Cell Virtual Connection 182; Fig. 7), a feedback value f_l (TCA Rate Control Feedback 180; Fig. 7) from said receiving node R_l (Node C, Fig. 7), to said sending node X_l (Node A; Fig. 7), said feedback value f_l being indicative of the ability of said receiving node R_l to store said packet in said receiving node R_l buffer;(at the input to node 22-C a TXR 56 performs the receive functions previously described and directs the cell traffic to the appropriate queue of an output FRP 59 unit via system bus 60 where the cells are assembled into frames for delivery to the user C virtual port 40. FRP 59 examines the headers of each bursty data virtual circuit and generates an estimate of the congestion status by comparing the average c-bit rate with a threshold reference value. If threshold is exceeded, indicating incipient congestion, an ICA rate control message is fed back to the source FRP 59 unit in source node 22-A, where user A's input rate is decreased so as to relieve the congestion present on its virtual circuit; see col. 11, line 45-69. Also, the rate setting is subsequently dynamically adjusted by rate commands received from the VC destination FRP 59 via cell receiver 815. For one preferred embodiment, a two-bit coded message embedded in the cell header (octet 3, bits 2 and 3) of return traffic is used to encode a four-state rate message: increase, decrease, large decrease, and no-change; see col. 12, line 54-61), and

Bustini '454 does not explicitly disclose transmitting downstream from said sending node X_l to said receiving node R_l, via said link 1, only those packets stored in said sending node X_l buffer whose threshold level equals or exceeds the feedback value f_l (see Fichou

'522 col. 8, line 6-16; noted that according to Fichou '522, in particular to a switch, when the congestion is detected at the output buffer, a backpressure signal is sent to the input buffer. Once the input buffer received the congestion indication such as feedback value/backpressure signal, it compares to the transmission priority threshold of each packet stored and determines what type of packet to be sent. Then, it sends the real time packet first, and then follows by the non-real time packet since they have different priority. Similarly, the scenario of transmitting prioritized packets based upon feedback/backpressure signal within a switch can be broadened and applied to the network, where there are plurality of nodes connected and have input and output buffers. If the downstream node is congested, it sends a feedback signal value indication to upstream node. The upstream node compares to its transmission priority threshold of each stored packet type and determines what type of packet to be sent. Then, it sends the high priority packet first, then follow by the low priority packet to the down stream node).

This limitation is taught by Fichou '522. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bustini '454 as taught by Fichou '522 for the purpose of using separate queues for RT, NRT and NR data, respectively, avoids the situation of a higher priority packet/cell being embedded in a data stream following several lower priority packets, which can happen if only one input queue is provided. With separate queues for each priority level, a maximum of one lower priority packet may have to be transmitted before a received higher priority packet can be sent; see Fichou '522 col. 6, line 31-39. The motivation being that by prioritizing the traffic

during congested period before sending, it can increase buffer utilization (i.e. RT vs. NRT traffic) and achieve better network performance.

Regarding claim 4, both Bustini '454 and Fichou '522 disclose said packets stored in said sending node X_l buffer whose priority level equals λ_p or exceeds the feedback value f_l are designated as eligible packets as described in Claim 1 above. Moreover, Bustini '454 discloses said transmitting step includes processing said eligible packets in accordance with a prioritization algorithm (see Received Packet FIFO 90, Packet Information FIFO 152, and Packet Start Address FIFO 124, Fig. 12; Also, T1 deframer 84 strips the T1 framing pattern from the incoming bit stream and sends the received octets of the cell through descrambler 86 and CRC checker 88. If the CRC for the cell is in error the cell is destroyed. If the CRC is correct, the cell is placed into receive packet FIFO 90; see col. 16, line 53-56).

Regarding claim 5, Bustini '454 disclose prioritization algorithm operates on a first-in/first out basis (see Received Packet FIFO 90, Packet Information FIFO 152, and Packet Start Address FIFO 124, Fig. 12).

Regarding claim 6, Bustini '454 discloses prioritization algorithm operates on a round robin basis (when the process ends because all excess bandwidth has been allocated, index n remains set at its last value. The next time that excess bandwidth obtains after class i=1 and i=2 have been serviced; index n picks up the next round-robin value in step 818; see col. 20, line 60-66).

Regarding claim 7, Bustini '454 discloses feedback value f_l is determined by setting in the buffer at the receiving node R_l thresholds B_i that limit the maximum amount of space for packets with priority levels λ^d less than or equal to i, (ICA is configurable on a per connection basis. System software resident in each process controller 50, implements the user interface and ICA node functions, and further comprises the following functions, see function steps 1-6 from col. 21, line 31-67 to col.22, line1-10);

monitoring the priority levels λ^d of arriving and departing packets and the total space in the buffer at R_l occupied by packets of various priority levels λ^d (Step 418 checks to see if the priority order index, j, has been exhausted, and if not, returns to step 406 where index j is incremented. If all values of j have been exhausted, step 420 checks to see if B>0, indicating that spare bandwidth is available for distribution in accordance with protocol 800 referenced in step 422; see col. 20, line 32-37),

increasing priority levels λ_p of previously-stored packets (if the rate change in step 507 is an increase, the process moves to step 509 where it is determined if data is available, as indicated the Boolean flag Q_i; see col. 24, line 6-7, and Fig. 6), and

transmitting from the receiving node R_l to the sending node X_l a feedback value f_l that represents the lowest priority level of packets that the receiving node RP could accept without violating any of the Bi buffer threshold constraints (generating a feedback control signal from the filtered or averaged c-bit count, comparing the average count with threshold TAth and sending it back to the source node 22 over the same two way connection in a queued cell or supervisory cell header and coded as follows; see col. 22, line 53-59. The

configurable MIR and PIR guarantee that each connection gets at least its minimum allocated bandwidth, independent of other traffic; see col. 21, line 24-26).

Regarding claim 12, Bustini '454 discloses a network of nodes (Node A, B, and C; Fig. 7) connected to each other via bidirectional links (Cell Virtual Connection 182; Fig. 7), each of said nodes having a buffer for storing packets prior to transmission toward an ultimate destination (TXR 56 and FRP 59; Fig.7), a method to provide feedback from receiving nodes to sending nodes (Node A and C; Fig. 7), to control packet transmission such that packets are not lost, and transmission of packets can occur without creating overflow in said buffers and without creating deadlocks or livelocks, said method comprising the steps of:

assigning a priority level λ_p from amongst at least two possible priority levels, to packets stored in a sending node X_l buffer (each node 22 incorporates a T1 transmitter/receiver that includes the fair queuing and servicing circuitry. The T1 transmitter/receivers support six classes of cell traffic: high priority (HP), voice, low speed statistical (LSS), high speed deterministic (HSD), bursty, and multicast; see col. 6, line 26-30);

transmitting upstream, via said link 1 (Cell Virtual Connection 182; Fig. 7), a feedback value f_l (TCA Rate Control Feedback 180; Fig. 7) from said receiving node R_l (Node C, Fig. 7) to said sending node X_l (Node A; Fig. 7), said feedback value f_l being indicative of the ability of said receiving node R_l to store said packet in said receiving node buffer ;(at the input to node 22-C a TXR 56 performs the receive functions previously

described and directs the cell traffic to the appropriate queue of an output FRP 59 unit via system bus 60 where the cells are assembled into frames for delivery to the user C virtual port 40. FRP 59 examines the headers of each bursty data virtual circuit and generates an estimate of the congestion status by comparing the average c-bit rate with a threshold reference value. If threshold is exceeded, indicating incipient congestion, an ICA rate control message is fed back to the source FRP 59 unit in source node 22-A, where user A's input rate is decreased so as to relieve the congestion present on its virtual circuit; see col. 11, line 45-69);

periodically adjusting said feedback value f_l (the rate setting is subsequently dynamically adjusted by rate commands received from the VC destination FRP 59 via cell receiver 815. For one preferred embodiment, a two-bit coded message embedded in the cell header (octet 3, bits 2 and 3) of return traffic is used to encode a four-state rate message: increase, decrease, large decrease, and no-change; see col. 12, line 54-61).

Bustini '454 does not explicitly disclose transmitting downstream from said sending node X_l to said receiving node Rl, via said link 1, only those packets stored in said sending node X_l, buffer whose threshold level λ_p is at least equal to the feedback value f_l (see Fichou '522 col. 8, line 6-16; noted that according to Fichou '522, in particular to a switch, when the congestion is detected at the output buffer, a backpressure signal is sent to the input buffer. Once the input buffer received the congestion indication such as feedback value/backpressure signal, it compares to the transmission priority threshold of each packet stored and determines what type of packet to be sent. Then, it sends the real time packet first, and then follows by the non-real time packet since they have different priority. Similarly, the scenario

of transmitting prioritized packets based upon feedback/backpressure signal within a switch can be broadened and applied to the network, where there are plurality of nodes connected and have input and output buffers at each node. If the downstream node is congested, it sends a feedback signal value indication to upstream node. The upstream node compares to its transmission priority threshold of each stored packet type and determines what type of packet to be sent. Then, it sends the high priority packet first, then follow by the low priority packet to the down stream node), and

"periodically adjusting said priority level λ_p" (see Fichou '522 col. 8, line 25-31, the operation of the enable timer function 54 is triggered by a backpressure (BP) signal indicating the existence of congestion conditions. Whenever an active timer (T1 or T2) expires, cell transmission is normally resumed in the receive adapter. However, if input RT traffic is detected, the timers are disabled (block 55) under specific conditions already described and to be described further in connection with FIG. 6, and again cell transmission is enabled at full switch speed; noted that according to Fichou '522, in particular to a switch input buffer coordinates with the output buffer based upon the backpressure signal whether it should increase or decrease transmitting prioritized packet. This step is done based by adjusting the transmission priority value (i.e. timer or threshold) of each packet type in order to utilize the output buffer efficiently. Similarly, the same scenario can be applied to the network where there are pluralities of nodes, and the upstream node monitors and adjusts the transmission priority of the packets based upon the downstream node buffer capacity).

This limitation is taught by Fichou '522. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bustini

'454 as taught by Fichou '522 for the purpose of using separate queues for RT, NRT and NR data, respectively, avoids the situation of a higher priority packet/cell being embedded in a data stream following several lower priority packets, which can happen if only one input queue is provided. With separate queues for each priority level, a maximum of one lower priority packet may have to be transmitted before a received higher priority packet can be sent; see Fichou '522 col. 6, line 31-39. The motivation being that by prioritizing the traffic to be sent during congested period, it can increase buffer utilization (i.e. RT vs. NRT traffic) and achieve customer satisfaction.

4. Claim 9 and 13 are rejected under 35 U.S.C. 103(a) as being obvious over Bustini (U.S. Patent 5,313,454) and Fichou (U.S. Patent 5,790,522), and further in view of Napolitano (U.S. Patent 5,471,623).

Regarding Claim 9, Bustini '454 discloses the step of a packet communication network comprised of interconnected nodes arranged to transmit variable length pack is to adjacent nodes (Node A, B, and C; Fig. 7), wherein each node includes a buffer for storing packets enroute from source node to a destination node (TXR 56 and FRP 59; Fig.7), a method of controlling the transmission of a packet p from a sending node X_l (Node A; Fig. 7) to a receiving node R_l (Node C; Fig. 7), via a link l (Cell Virtual Connection 182, Fig. 7), said method comprising the steps of

sending from the receiving node R_l to the sending node X_l a feedback level f_l such that there will be room in the buffer in the receiving node Rl to store packets subsequently received from the upstream node X_l ;(at the input to node 22-C a TXR 56 performs the

receive functions previously described and directs the cell traffic to the appropriate queue of an output FRP 59 unit via system bus 60 where the cells are assembled into frames for delivery to the user C virtual port 40. FRP 59 examines the headers of each bursty data virtual circuit and generates an estimate of the congestion status by comparing the average c-bit rate with a threshold reference value. If threshold is exceeded, indicating incipient congestion, an ICA rate control message is fed back to the source FRP 59 unit in source node 22-A, where user A's input rate is decreased so as to relieve the congestion present on its virtual circuit; see col. 11, line 45-69. Also, the rate setting is subsequently dynamically adjusted by rate commands received from the VC destination FRP 59 via cell receiver 815. For one preferred embodiment, a two-bit coded message embedded in the cell header (octet 3, bits 2 and 3) of return traffic is used to encode a four-state rate message: increase, decrease, large decrease, and no-change; see col. 12, line 54-61);

assigning a priority level X_l to packets stored in the buffer of the receiving node R_l (each node 22 incorporates a T1 transmitter/receiver that includes the fair queuing and servicing circuitry. The T1 transmitter/receivers support six classes of cell traffic: high priority (HP), voice, low speed statistical (LSS), high speed deterministic (HSD), bursty, and multicast; see col. 6, line 26-30); and

Bustini '454 does not explicitly disclose transmitting from the sending node X_l to the receiving node R_l, only those stored packets whose threshold level is at least equal to the feedback level received from the receiving node R_l (see Fichou '522 col. 8, line 6-16; noted that according to Fichou '522, in particular to a switch, when the congestion is detected at the output buffer, a backpressure signal is sent to the input buffer. Once the input buffer received

the congestion indication such as feedback value/backpressure signal, it compares to the transmission priority threshold of each packet stored and determines what type of packet to be sent. Then, it sends the real time packet first, and then follows by the non-real time packet since they have different priority. Similarly, the scenario of transmitting prioritized packets based upon feedback/backpressure signal within a switch can be broadened and applied to the network, where there are plurality of nodes connected and have input and output buffers at each node. If the downstream node is congested, it sends a feedback signal value indication to upstream node. The upstream node compares to its transmission priority threshold of each stored packet type and determines what type of packet to be sent. Then, it sends the high priority packet first, then follow by the low priority packet to the down stream node).

This limitation is taught by Fichou '522. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Bustini '454 as taught by Fichou '522 for the purpose of using separate queues for RT, NRT and NR data, respectively, avoids the situation of a higher priority packet/cell being embedded in a data stream following several lower priority packets, which can happen if only one input queue is provided. With separate queues for each priority level, a maximum of one lower priority packet may have to be transmitted before a received higher priority packet can be sent; see Fichou '522 col. 6, line 31-39. The motivation being that by prioritizing the traffic to be sent during congested period, it can increase buffer utilization (i.e. RT vs. NRT traffic) and achieve customer satisfaction.

Neither Bustini '454 nor Fichou '522 explicitly discloses (a) all packets destined for the same destination have the same priority level, and (b) packets closer to their destination have a higher priority level (see Napolitano '623 col. 11, line 1-8, a packet arriving at node 60 is placed in a FIFO queue 68. Routing determination circuitry uses the packet destination address to select which node output port 66 of which link 61 the packet will exit along. The output port 66 of that link 61 is fed by an output routing multiplexer 70 whose inputs are all the queues whose packets can be routed out along that link. A round robin priority scheme is used to select the packet routed through the multiplexer. Also, see Napolitano '623 see col. 9, line 65-67, the optimal routing of a packet can be viewed as the shortest path along the ring 40 which starts at the current stage C 44, finishes at the destination stage D 46, and passes through every ring position where the bit value of r is 1).

This limitation is taught by Napolitano '623. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Bustini '454 and Fichou '522, as taught by Napolitano '623 for the purpose of restricting packet movement based on the available queue size of the next node and achieving the most excellent advantage of these features is that deadlock can never occur, thus data information is not lost and can always be recovered, and there is minimal hardware overhead to avoid deadlock and improve reliability; see col. Napolitano '623; see col. 5, line 10-19. The motivation being that by determining routing information, it can prevent deadlock.

Regarding Claim 13, both Bustini '454 and Fichou '522 disclose assigning steps includes assigning a priority level λ_p as described above in Claim 9.

Neither Bustini '454 nor Fichou '522 discloses the packets closer to their destination have a higher priority level (see Napolitano '623 see col. 9, line 65-67, the optimal routing of a packet can be viewed as the shortest path along the ring 40 which starts at the current stage C 44, finishes at the destination stage D 46, and passes through every ring position where the bit value of r is 1).

This limitation is taught by Napolitano '623. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Bustini '454 and Fichou '522, as taught by Napolitano '623 for the same reason as stated above in Claim 9.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N Moore whose telephone number is 703-605-1531. The examiner can normally be reached on M-F: 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Ian N Moore
Examiner
Art Unit 2661

KENNETH VANDERPUYE
PRIMARY EXAMINER